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WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION) ONE LIBERTY PLACE - 46TH FLOOR PHILADELPHIA, PA 19103			PATEL, HARESH N	
			ART UNIT	PAPER NUMBER
			2154	

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/557,250

Applicant(s)

GOLDICK ET AL.

Examiner

Haresh Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13, 16-20 and 22-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 16-20 and 22-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1-13, 16-20, and 22-27 are presented for examination. Claims 14, 15 and 21 are cancelled.

#### ***Response to Arguments***

2. Applicant's arguments filed 6/23/2006, have been fully considered but they are not persuasive. Therefore, rejection of claims 1-13, 16-20, and 22-27 is maintained. (Note: the rejections, dated 5/24/2006 are retained and included in this office action).

Applicant argues (1), "Applicants submit that they have obviated the double patenting rejections (Lomet, U.S. Patent No. 5,946,698, 5,870,763, 6,067,550 and 5,530,800). Specifically, because the limitation of "an (API) for communications of application's state dependency information among applications" cannot be found in the art cited in the present Office Action, the current double patenting rejection should be withdrawn".

The examiner respectfully disagrees in response to applicant's arguments. Contrary to the applicant's assertions, the limitations of "an (API) for communications of application's state dependency information among applications" is not rejected by the single art. The rejection of the limitations "an (API) for communications of application's state dependency information among applications" is made using the combine teachings of the above-mentioned respective patent of the double patent rejection with the teachings of the Van Huben et al., 5,920,873, IBM (Hereinafter Van-IBM) which discloses the well-known concept of using application programming interface, API (e.g., paragraph 787), and the teachings of the Daminin et al., 5,938,775, AT&T (Hereinafter Damani-AT&T) which discloses the concept of handling

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dependency among applications (e.g., usage of transitive dependency tracking, abstract). With the teachings of Van-IBM and Damani-AT&T it would be obvious to one of ordinary skill in the art to include concept of using API and dependency among applications with the claimed subject matter of claims 1-39 of Lomet, U.S. Patent No. 5,946,698. Note: The API is a set of routines used by an application program to direct the performance of procedures by the computer's operating system and the concept of API is used to implement functionality. Since, the "communications of application's state dependency information among applications", which is taught by the above-mentioned arts needs to implemented by routines or relative software entities, The well-known concept of the API would help the implementation. Hence, the rejection is maintained.

Applicant argues (2), "the cited references do not teach or disclose the limitations an API for communications of application's state dependency information among applications", "there is no motivation to combine the APIs from the Van Huben et al. reference with the teachings of Lomet as such a combination does not make any technological sence and such a combination would destroy the intended functionality of the claimed subject matter" "the applicant's disagree that API have to be embedded in object tables and a field is not a substitute for an API in the context discussed above" and

states " The Lomet reference merely discloses an aspect of the disclosure that optimizes the application read operation to avoid writing the object data read to the log record. The read optimizing technique eliminates posting the read values to the log by substituting, for the read values, an identity of the location from where the values are read and posting the identity instead of the values. Moreover, Lomet discloses a cache manager that has an object

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table which tracks the objects maintained in a volatile cache. The object table includes field to track dependencies among the objects".

The examiner respectfully disagrees in response to applicant's arguments. As asserted by the applicant that the teachings of the Lomet are limited to "the disclosure that optimizes the application read operation to avoid writing the object data read to the log record. The read optimizing technique eliminates posting the read values to the log by substituting, for the read values, an identity of the location from where the values are read and posting the identity instead of the values. Moreover, Lomet discloses a cache manager that has an object table which tracks the objects maintained in a volatile cache. The object table includes field to track dependencies among the objects", is incorrect. Lomet also teaches a method for utilizing application's state dependency information (e.g., col., 6, lines 41 – 58) to efficiently perform a backup service operation (e.g., col., 7, lines 6 – 26) in a computer system (e.g., col. 5, lines 31 – 46), registering applications (e.g., col., 6, lines 3 – 26) loaded in said computer system (e.g., col. 5, lines 31 – 46) with a software module (e.g., col., 34, lines 21 – 47) for communications of application's state dependency (e.g., col., 6, lines 41 – 58) information among objects (e.g., col., 6, lines 32 – 45), a common software agent (e.g., col., 5, lines 60 – 67), a storage component (e.g., col., 6, lines 41 – 56) utilized by said agent (e.g., col., 5, lines 60 – 67) and a backup service (e.g., col., 5, lines 40 – 51), storing in said storage component (e.g., col., 6, lines 41 – 56) at least one application's state dependency information (e.g., col., 6, lines 41 – 58) communicating said at least one application's state dependency information (e.g., col., 6, lines 41 – 58) from said storage component (e.g., col., 6, lines 41 – 56) to said backup service (e.g., col., 5, lines 40 – 51), etc.

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Van-IBM discloses the well-known concept of using application programming interface, API (e.g., paragraph col., 114, line 5 – col., 115, line 17).

The applicant's assertion that "there is no motivation to combine the APIs from the Van Huben et al. reference with the teachings of Lomet as such a combination does not make any technological sense and such a combination would destroy the intended functionality of the claimed subject matter" is incorrect. To make it more clearer the API is a set of routines used by an application program to direct the performance of procedures by the computer's operating system and the concept of API is used to implement functionality. Since, the "communications of application's state dependency information among applications", which is taught by the above-mentioned arts needs to be implemented by routines or relative software entities, The well-known concept of the API which also taught by the above-cited references would help the implementation. Hence, the applicant's assertion that the combination does not make any technological sense and such a combination would destroy the intended functionality of the claimed subject matter is just misleading. The teachings of the functionality of the Lomet and the cited references needs to be implemented and the well-known usage of the API would support the implementation. Hence, rather destroying the intended functionality as asserted by the applicant the API would in fact support the implementation.

The statement "the applicant's disagree that API have to be embedded in object tables and a field is not a substitute for an API in the context discussed above" is misleading. The prosecution history is very clear that no one has claimed or suggested that API have to be embedded in object tables and a field is a substitute for an API. To combine the teachings of the cited references as mentioned above, there is no requirement for API have to be embedded in

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object tables and a field is a substitute for an API. Further, please see the claimed invention (especially claim 1) which is not limited to using API that is embedded or using object tables or using field as a substitute for an API, etc. In fact, the claimed invention does not include limitations that reflect how the implementation of the claimed subject matter is different than the Lomet cited arts. The Lomet cited art teachings are not limited to the applicant's assertions, hence the rejection is maintained.

Applicant argues (3), "the recited API is configured to (1) perform registering applications loaded in a computer system, and it is utilized for communications of application's state dependency information among applications, (2) enable an agent to collect, store, and package information about state dependencies among applications, and (3) maintain communications protocols to which the agent accords to. Applicants submit that such an API cannot be found in the cited art (Lomet, 5,870,763)".

The examiner respectfully disagrees in response to applicant's arguments. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies, "the recited API is configured to (1) perform registering applications loaded in a computer system, and it is utilized for communications of application's state dependency information among applications, (2) enable an agent to collect, store, and package information about state dependencies among applications, and (3) maintain communications protocols to which the agent accords to. Applicants submit that such an API cannot be found in the cited art", are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The First

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inquiry must be into exactly what the claims define. See *In re Wilder*, 166 USPQ 545, 548 (CCPA 1970).

What is claimed is, please see claim 1, which is related to these limitations, “the method comprising acts of: registering applications loaded in said computer system with an application dependency application programming interface (API) for communications of application’s state dependency information among applications, a common software agent, a storage component utilized by said agent and a backup service”, “wherein, said API (note: API is not necessarily configured to perform all the tasks and/or the tasks handled only by itself) enables an agent to collect, store and package information about state dependencies among applications in response to a request by a service, please see claim 16, which is related to these limitations; and, “an agent that functions according to communication protocols of an application programming interface (API) is said system for processing said dependency information, please see claim 16, which is related to these limitations. Please refer to the below rejections of this office action to the amended claimed limitations of the claims. Further, page 16, lines 13 – 25, of the specification of this application, very clearly states, “while the present invention has been described in connection with the preferred embodiments of the various figures, it is to be understood that other similar embodiments may be used or modifications and additions may be made to the described embodiment for performing the same function of the present invention without deviating therefrom. For example, while in a preferred embodiment, XML is used as a communications protocol for dependency information, it should be understood that many different communications and network protocols may be suited to the delivery of dependency information in accordance with the present invention. Furthermore, it should be emphasized that



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a variety of computer platforms, including handheld device operating systems and other application specific operating systems are contemplated. Therefore, the present invention should not be limited to any single embodiment, but rather considered in breadth and scope in accordance with the appended claims". Since, applicant's claims contain broadly claimed subject matter, it clearly reads upon the examiner's interpretation of the claimed subject matter.

Therefore, the rejection is maintained.

Applicant argues (4), "Van Huben et al., 5,920,873, IBM (Hereinafter Van-IBM) despite its mention of certain kinds of APIs, does not disclose the kinds APIs that are recited in claims 1, 16, and 22: APIs configured to (1) perform registering applications loaded in a computer system, and utilization for communications of application's state dependency information among applications, (2) enablement of an agent to collect, store, and package information about state dependencies among applications, and (3) maintenance of communications protocols to which the agent accords to", and "None of the other references, Damani et al. or Lewis, or the Official Notice are cited for disclosing such APIs, and none of the references disclose such recited APIs. Therefore, the independent claims patentably define over the cited art either for nonobviousness rejection purposes or double patenting rejection purposes".

The examiner respectfully disagrees in response to applicant's arguments. Contrary, to applicant's assertions, "the kinds of APIs that are recited in claims 1, 16, and 22: APIs configured to 1) perform ..., utilization for ..., 2) enablement of ..., 3) maintenance of ...", only one (single for all three acts) API is claimed in each claim and which is neither configured for performing nor configured for utilization or enablement or maintenance, etc., please see claims 1, 16 and 22. In response to "Van-IBM does not disclose the above limitations" and "None of

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the other references, Daminin et al., 5,938,775, AT&T (Hereinafter Damani-AT&T) or Lewis, or the Official Notice are cited for disclosing such APIs, and none of the references disclose such recited APIs”, i.e., in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). At this point, the limitations are not rejected using the Lomet et al. 5,870,763 (Hereinafter Lomet) reference and not the Van-IBM reference.

The applicant concerned limitations are rejected using combined teachings of the above-mentioned references. Also, contrary to applicant's assertions, one skilled in the art, very well recognizes the usage of an application programming interface (API) and that API is a routine or set of routines used by an application program to direct the performance of procedures by the computer's operating system. Please refer to the below rejections of this office action (combined teachings of the cited arts) to the amended claimed limitations of the claims (along with the teachings of the cited arts). Further, page 16, lines 13 – 25, of the specification of this application, very clearly states, “while the present invention has been described in connection with the preferred embodiments of the various figures, it is to be understood that other similar embodiments may be used or modifications and additions may be made to the described embodiment for performing the same function of the present invention without deviating therefrom. For example, while in a preferred embodiment, XML is used as a communications protocol for dependency information, it should be understood that many different communications and network protocols may be suited to the delivery of dependency information

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in accordance with the present invention. Furthermore, it should be emphasized that a variety of computer platforms, including handheld device operating systems and other application specific operating systems are contemplated. Therefore, the present invention should not be limited to any single embodiment, but rather considered in breadth and scope in accordance with the appended claims". Since, applicant's claims contain broadly claimed subject matter, it clearly reads upon the examiner's interpretation of the claimed subject matter. Therefore, the rejection is maintained.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-13, 16-20, and 22-27 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-39 of Lomet, U.S. Patent No. 5,946,698. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patent teaches all the limitations as disclosed such that the interpretation of utilizing application's state dependency information to efficiently perform a backup service operation is similar to defining an application object as encompassing an address

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space of the application and atomically flushing the object to the memory to enable recovery of the application address space following a system crash. The claimed subject matter of claims 1-39 of Lomet et al, U.S. Patent No. 5,946,698 does not specifically mention about using API and dependency information among applications. However, Van Huben et al., 5,920,873, IBM (Hereinafter Van-IBM) discloses the well-known concept of using application programming interface, API (e.g., paragraph 787). Daminin et al., 5,938,775, AT&T (Hereinafter Damani-AT&T) discloses the concept of handling dependency among applications (e.g., usage of transitive dependency tracking, abstract). With the teachings of Van-IBM and Damani-AT&T it would be obvious to one of ordinary skill in the art to include concept of using API and dependency among applications with the claimed subject matter of claims 1-39 of Lomet, U.S. Patent No. 5,946,698. The dependency information between applications would enhance utilizing the dependency information. The API would support handling of software modules. The software modules would help handle information for the system.

Note: Please refer to the response to the applicant's arguments section of this office action regarding this double patenting rejection, and hence, this rejection from previous office action, dated 2/24/2006, is retained.

4. Claims 1-13, 16-20, and 22-27 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-59 of Lomet, U.S. Patent No. 5,870,763. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patent teaches all the limitations as disclosed such that the interpretation of utilizing application's state dependency information to efficiently perform a

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backup service operation is similar to defining an application object as encompassing an address space of the application with tracking whether the application object has any flush order dependencies with other objects with enforcing a flushing sequence among the application object and the other objects to resolve the flush order dependencies. The claimed subject matter of claims 1-59 of Lomet et al, U.S. Patent No. 5,870,763 does not specifically mention about using API and dependency information among applications. However, Van-IBM discloses the well-known concept of using application programming interface, API (e.g., paragraph 787). Damani-AT&T discloses the concept of handling dependency among applications (e.g., usage of transitive dependency tracking, abstract). With the teachings of Van-IBM and Damani-AT&T it would be obvious to one of ordinary skill in the art to include concept of using API and dependency among applications with the claimed subject matter of claims 1-59 of Lomet, U.S. Patent No. 5,870,763. The dependency information between applications would enhance utilizing the dependency information. The API would support handling of software modules. The software modules would help handle information for the system.

Note: Please refer to the response to the applicant's arguments section of this office action regarding this double patenting rejection, and hence, this rejection from previous office action, dated 2/24/2006, is retained.

5. Claims 1-13, 16-20, and 22-27 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-46 of Lomet, U.S. Patent No. 6,067,550. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patent teaches all the limitations as disclosed such that the

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interpretation of utilizing application's state dependency information to efficiently perform a backup service operation is similar to a reference to the application object to identify the application object as a source for the data written to the data object with establishing a flush order dependency between the application object and the data object and usage of logging. The claimed subject matter of claims 1-46 of Lomet et al, U.S. Patent No. 6,067,550 does not specifically mention about using API and dependency information among applications. However, Van-IBM discloses the well-known concept of using application programming interface, API (e.g., paragraph 787). Damani-AT&T discloses the concept of handling dependency among applications (e.g., usage of transitive dependency tracking, abstract). With the teachings of Van-IBM and Damani-AT&T it would be obvious to one of ordinary skill in the art to include concept of using API and dependency among applications with the claimed subject matter of claims 1-46 of Lomet U.S. Patent No. 6,067,550. The dependency information between applications would enhance utilizing the dependency information. The API would support handling of software modules. The software modules would help handle information for the system.

Note: Please refer to the response to the applicant's arguments section of this office action regarding this double patenting rejection, and hence, this rejection from previous office action, dated 2/24/2006, is retained.

6. Claims 1, 16 and 22 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of Lomet, U.S. Patent No. 6,151,607. Although the conflicting claims are not identical, they are not patentably distinct from each other

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because the patent teaches all the limitations as disclosed such that the interpretation of utilizing application's state dependency information to efficiently perform a backup service operation is similar to an application object stored in memory and manage flushing of the data object and the application object from the memory to another memory and to detect any dependency between the data and application objects that should be flushed simultaneously. The claimed subject matter of claims 1-6 of Lomet et al, U.S. Patent No. 6,151,607 does not specifically mention about using API and dependency information among applications. However, Van-IBM discloses the well-known concept of using application programming interface, API (e.g., paragraph 787). Larsson et al., 5,530,800 (Hereinafter Larsson) discloses the concept of handling dependency among applications (e.g., usage of dependency information among sub-systems, col., 4, line 58 – col., 5, line 26). With the teachings of Van-IBM and Larsson it would be obvious to one of ordinary skill in the art to include concept of using API and dependency among applications with the claimed subject matter of claims 1-6 of Lomet U.S. Patent No. 6,151,607. The dependency information between applications would enhance utilizing the dependency information. The API would support handling of software modules. The software modules would help handle information for the system.

Note: Please refer to the response to the applicant's arguments section of this office action regarding this double patenting rejection, and hence, this rejection from previous office action, dated 2/24/2006, is retained.

***Claim Rejections - 35 USC § 103***

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7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-9, 12, 13, 16-20 and 22-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lomet et al. 5,870,763 (Hereinafter Lomet) in view of Van Huben et al., 5,920,873, IBM (Hereinafter Van-IBM) with the teachings of Daminin et al., 5,938,775, AT&T (Hereinafter Damani-AT&T) (Please note that rejections from previous office action, dated 2/24/2006, is retained).

9. As per claim 1, Lomet teaches the following:

a method for utilizing application's state dependency information (e.g., col., 6, lines 41 – 58) to efficiently perform a backup service operation (e.g., col., 7, lines 6 – 26) in a computer system (e.g., col. 5, lines 31 – 46), comprising the acts of:

registering applications (e.g., col., 6, lines 3 – 26) loaded in said computer system (e.g., col. 5, lines 31 – 46) with a software module (e.g., col., 34, lines 21 – 47) for communications of application's state dependency (e.g., col., 6, lines 41 – 58) information among objects (e.g., col., 6, lines 32 – 45), a common software agent (e.g., col., 5, lines 60 – 67), a storage component (e.g., col., 6, lines 41 – 56) utilized by said agent (e.g., col., 5, lines 60 – 67) and a backup service (e.g., col., 5, lines 40 – 51),

storing in said storage component (e.g., col., 6, lines 41 – 56) at least one application's state dependency information (e.g., col., 6, lines 41 – 58) and



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communicating said at least one application's state dependency information (e.g., col., 6, lines 41 – 58) from said storage component (e.g., col., 6, lines 41 – 56) to said backup service (e.g., col., 5, lines 40 – 51).

However Lomet does not specifically mention about usage of application programming interface (API).

Van-IBM discloses the well-known concept of using application programming interface, API (e.g., paragraph col., 114, line 5 – col., 115, line 17).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Lomet with the teachings of Van-IBM in order to facilitate using application programming interface (API) because the API would support providing software modules. The software modules would help handle information for the system.

Lomet and Van-IBM do not specifically mention about dependency among applications.

Damani-AT&T discloses the concept of handling dependency among applications (e.g., usage of transitive dependency tracking, abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Lomet and Van-IBM with the teachings of Damani-AT&T in order to facilitate dependency among applications because the dependency would enhance supporting information between applications. The software modules of the system would utilize the dependency information.

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10. As per claim 2, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

said backup service includes a snapshot service (e.g., col., 11, lines 60 - 66).

11. As per claim 3, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

said backup service includes a determination of an application freeze order (e.g., col.6, lines 41-49).

12. As per claim 4, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

said backup service includes an execution of the freezing of applications in the order reflected by the determined application freeze order (e.g., col. 17, lines 3-42).

13. As per claim 5, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

loading the software module into said computer system (e.g., col. 19, lines 9-34).

14. As per claim 6, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

said backup service requesting a set of application dependency information from a common software agent for use in connection with the restore operation (e.g., col. 31, lines 32-46).

15. As per claim 7, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

said set of application dependency information is the minimum set of information from said storage component for successfully completing the restore operation (e.g., col. 31, lines 32-46).

16. As per claim 8, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

said agent issuing a request to at least one registered application for information from said set of application dependency information requested by the service (e.g., col. 33, lines 6-42).

17. As per claim 9, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

at least one registered application communicating information to said agent in response to a request by said agent (e.g., col. 12, lines 59-65, figure 5), said information relating to said at least one application's state dependency information (e.g., col. 19, lines 8-14, figure 12).

18. As per claim 12, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

said agent stores said at least one application's state dependency information in a tabular format reflective of hierarchical application dependencies in said storage component (e.g., col. 18, lines 4-28, also Van-IBM, abstract).

19. As per claim 13, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

a computer-readable medium having executable instructions for instructing a client computer to perform the acts of the method (e.g., figure 3).

20. As per claim 16, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

in response to a request by a service (e.g., col. 31, lines 32-46) and thereafter delivers said application's state dependency information to said service for further processing by said service (e.g., col., 11, lines 60 - 66).

21. As per claim 17, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

the service to which said agent delivers said information is a backup service (e.g., col., 7, lines 6 - 26).

22. As per claim 18, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

said service includes a snapshot service (e.g., col., 11, lines 60 - 66).

23. As per claim 19, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

said service includes a determination of an application freeze order (e.g., col.6, lines 41-49).

24. As per claim 20, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

said agent stores said application dependency information in a tabular format reflective of hierarchical application dependencies in a storage component (e.g., col. 18, lines 4-28, also Van-IBM, abstract).

25. As per claim 22, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

a computer system (e.g., abstract), comprising:

a plurality of applications loaded in said system (e.g., col. 6, lines 2-38), wherein at least one of said applications has at least one external data dependency associated therewith (e.g., col. 19, lines 8-14, figure 12),

a storage component for storing application dependency information (e.g., col. 6, lines 50-60), wherein said dependency information is configured to include information about said at least one external state dependency (e.g., col. 6, lines 50-60, col. 19, lines 8-14, figure 12);

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an agent (e.g., col., 5, lines 60 – 67) that functions in said system (e.g., col. 12, lines 43-50) for processing said dependency information (e.g., col., 6, lines 41 – 58), wherein said dependency information includes information about dependencies executing on the system (e.g., col. 6, lines 50-60, col. 19, lines 8-14, figure 12) communicated to the software module from said agent (e.g., col. 12, lines 43-50) and for storing the dependency information in said storage component (e.g., col., 6, lines 41 – 56) and

a service for making requests (e.g., col. 31, lines 32-46) to said agent for a set of dependency information (e.g., col., 6, lines 41 – 58), wherein said agent collects (e.g., (e.g., col., 5, lines 40 – 51), stores (e.g., col., 6, lines 41 – 56) and packages (e.g., col., 6, lines 32 – 45) said dependency information (e.g., col., 6, lines 41 – 58) in response to a request by said service (e.g., col. 19, lines 8-14, figure 12) and delivers said set of dependency information (e.g., col., 6, lines 41 – 58) to said service for further processing by said service (e.g., col. 31, lines 32-46).

26. As per claim 23, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

the service to which said agent delivers said dependency information is a backup service (e.g., col., 7, lines 6 – 26).

27. As per claim 24, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

said service includes a snapshot service (e.g., col., 11, lines 60 - 66).

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28. As per claim 25, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

said service includes a determination of an application freeze order (e.g., col.6, lines 41-49).

29. As per claim 26, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

said agent stores said at least one application's state dependency information in a tabular format reflective of hierarchical application dependencies in a storage component (e.g., col. 18, lines 4-28, also Van-IBM, abstract).

30. As per claim 27, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. Lomet also teaches the following:

said set of application dependency information is the minimum set of information from said storage component for successfully completing the service (e.g., col. 31, lines 32-46).

31. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lomet, Van-IBM and Damani-AT&T in view of "Official Notice".

32. As per claim 10, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. However, Lomet, Van-IBM and Damani-AT&T do not specifically mention about unregistering an application. "Official Notice" is taken that both the concept and advantages of unregistering an application is well known and expected in the art.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to include unregistering an application with the teachings of Lomet, Van-IBM and Damani-AT&T in order to facilitate unregistering an application because the unregistering would support deregistration of the application. The deregistered application would no longer be used by the system until the application is registered again.

33. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lomet, Van-IBM and Damani-AT&T in view of Lewis 6,513,019.

34. As per claim 11, Lomet, Van-IBM and Damani-AT&T disclose the claimed limitations as rejected above. However, Lomet, Van-IBM and Damani-AT&T do not specifically mention about using XML protocol.

Lewis discloses usage of a communications format comprising XML (e.g., paragraph 27).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Lomet, Van-IBM and Damani-AT&T with the teachings of Lewis in order to facilitate usage of XML protocol because the XML protocol would provide a web standard common middleware layer in a communication stack at the API level between objects.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Examiner has cited particular columns and line numbers and/or paragraphs and/or sections and/or page numbers in the reference(s) as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety, as potentially teaching, all or part of the claimed invention, as well as the context of the passage, as taught by the prior art or disclosed by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haresh Patel whose telephone number is (571) 272-3973. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday from 10:00 am to 8:00 pm.

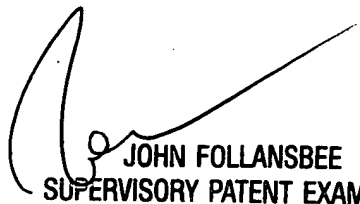
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Haresh Patel

August 29, 2006



JOHN FOLLANSBEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100